

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/743,562	GOPAL ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	MATTHEW J. DANIELS	1791	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the reply filed 29 December 2009.
2. ☒ The allowed claim(s) is/are 1-3,5,7-12 and 14.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
  - \* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)</li> <li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li> <li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),<br/>Paper No./Mail Date <u>12/29/09</u></li> <li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material</li> </ol> | <ol style="list-style-type: none"> <li>5. <input type="checkbox"/> Notice of Informal Patent Application</li> <li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>Paper No. 20100310</u> .</li> <li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li> <li>8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance</li> <li>9. <input type="checkbox"/> Other _____.</li> </ol> |
|---|---|

/Matthew J. Daniels/  
Primary Examiner, Art Unit 1791



### EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with James Beyer on 12 March 2010.

3. The claims have been amended as follows:

Claim 1. (Currently Amended) A method of forming an orthodontic wire, comprising, in combination, the steps of:

placing a composite of fiber and resin in a shrinkable die having a length and a

top and a bottom, wherein the die is formed of a material that shrinks in response to heat;

shrinking a section of the die;

placing the die containing the composite in a vacuum prior to completely

shrinking the die;

heating the die containing the composite to completely shrink the die, wherein the

composite is compressed to a pre-determined transversal cross-sectional shape, and

heating occurs gradually along the length of the die, such that shrinking occurs at one of

the top and the bottom prior to occurring at the other of the top and the bottom;

bending the die containing the composite to a desired profile;

curing the composite; and

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separating the cured composite from the die.

Cancelled Claim 4.

In Claim 14, line 1, replaced "claim 4" with --claim 1--.

***Allowable Subject Matter***

4. **Claims 1-3, 5, 7-12, and 14** are allowed.

5. The following is an examiner's statement of reasons for allowance: the prior art does not teach or fairly suggest the claimed steps and particular order of steps recited above, especially the steps of shrinking a section of the die, placing the die containing the composite in a vacuum prior to completely shrinking, and heating the die to completely shrink the die, prior to bending and curing. The most pertinent references are Moichi (JP 01-222927) and Goldsworthy (US 3,650,864)

6. Goldsworthy teaches a first step of placing a composite of fiber and resin (Fig. 1, items 6 and 9) in a shrinkable die (Fig. 1, items 30, 37, and 50), the shrinkable die having a length equal to the length of the length of the material on the roll (50). Goldsworthy further teaches the die and composite material are present in a vacuum chamber (Fig. 1, item 20) prior to any shrinking of the die, and subsequently shrinking the die by heating the die by gradually heating along the length of the die (Fig. 1, items 62-64). Separating the Goldsworthy composite from the die to obtain a translucent profile (5:43-50) would have been obvious in order to take advantage of the

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transparent nature of the completed composite. Goldsworthy does not teach or fairly suggest the two step shrinking process or bending the composite to a desired profile and curing.

7. Moichi does not teach or fairly suggest the two step shrinking process, application of vacuum, or the bending and curing steps.

8. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MATTHEW J. DANIELS whose telephone number is (571)272-2450. The examiner can normally be reached on Monday - Friday, 8:00 am - 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Matthew J. Daniels/  
Primary Examiner, Art Unit 1791  
3/15/10